CLAMS

1. A polypeptide which comprises amino acid numbers 37 to 346 in the amino acid sequence represented by SEQ ID NO:2, or a polypeptide of a sulfotransferase which comprises an amino acid sequence having substitution, deletion, insertion, addition and/or transposition of at least one amino acid in the amino acid sequence and has activity of transferring a sulfate group from a sulfate group donor to a glycosaminoglycan which is a sulfate group acceptor.

2. The polypeptide according to claim 1, which consists of the amino acid sequence represented by SEQ ID NO:2.

3. The polypeptide according to claim 1, which consists of amino acid numbers 37 to 346 in the amino acid sequence represented by SEQ ID NO:2.

4. The polypeptide according to any one of claims 1 to 3, wherein the glycosaminoglycan is heparin or heparan sulfate.

5. A sulfotransferase which comprises the polypeptide according to any one of claims 1 to 4 and has activity of transferring a sulfate group from a sulfate group donor to a glycosaminoglycan which is a sulfate group acceptor.

6. A nucleic acid which encodes the polypeptide according to any one of claims 1 to 4 or the sulfotransferase according to claim 5.

7. A nucleic acid which consists of the nucleotide sequence represented by SEQ ID NO:1.

8. A nucleic acid which hybridizes with the nucleic acid according to claim 6 or 7 or a nucleic acid consisting of a nucleotide sequence complementary to the nucleotide sequence under stringent conditions.

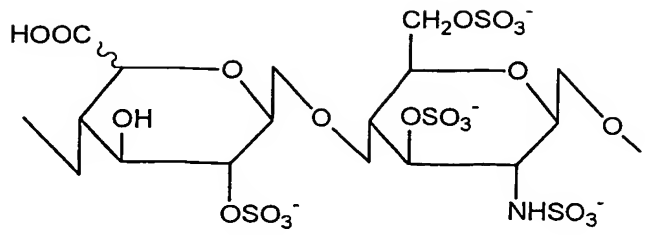
9. An expression vector which comprises the nucleic acid according to any one of claims 6 to 8.

10. A recombinant which comprises the expression vector according to claim 9.

11. A recombinant which comprises a host cell into which the expression vector according to claim 9 is introduced.

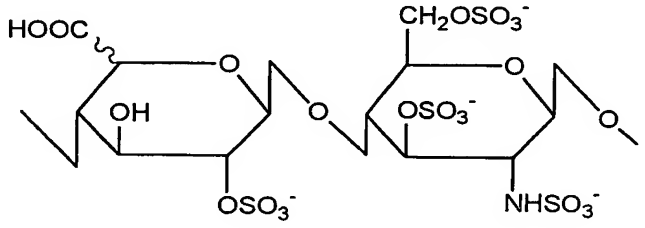
12. A process for producing a polypeptide or a sulfotransferase, which comprises growing the recombinant according to claim 10 or 11, and recovering the polypeptide according to any one of claims 1 to 4 or the sulfotransferase according to claim 5 from the obtained grown recombinant.

13. An enzyme agent for synthesizing a glycosaminoglycan comprising the structure represented by the following formula (1), which comprises the polypeptide according to any one of claims 1 to 4 or the sulfotransferase according to claim 5:



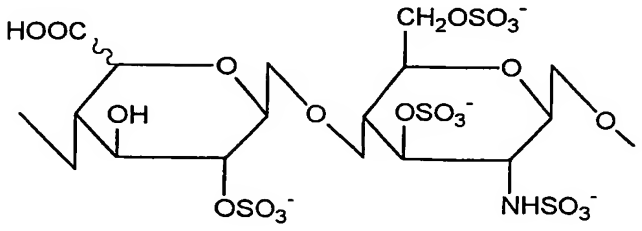
(1)

14. A process for producing a glycosaminoglycan comprising the structure represented by the following formula (1), which comprises reacting the enzyme agent according to claim 13 with heparin or heparan sulfate to transfer a sulfate group from a sulfate group donor to a sulfate group acceptor:



(1)

15. Use of the polypeptide according to any one of claims 1 to 4 or the sulfotransferase according to claim 5 as a catalyst for synthesizing a glycosaminoglycan comprising the structure represented by the following formula (1).



(1)